

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. *(Currently amended)* An aerial imaging system comprising:
 - a image storage medium locatable within an aircraft;
 - a controller that controls the collection of image data and stores it in the storage medium; and
 - a camera assembly that collects image data from a region to be imaged and inputs it to the controller, the camera assembly comprising at least one multiple camera module having a rigid ~~mounting block~~ frame containing a plurality of parallel lens cavities in each of which a camera lens ~~may be~~ is mounted and focused on the same field of view, and a plurality of imaging photodetectors, each aligned to receive light from a different one of the camera lenses.
2. *(New)* An imaging system according to Claim 1 wherein the frame comprises a monolithic block of material.
3. *(New)* An imaging system according to Claim 1 further comprising a plurality of filter elements each of which filters light collected by a different one of the lenses, wherein each of the filter elements has a different filter wavelength band.
4. *(New)* An imaging system according to Claim 3 further comprising a filter retainer on which the filter elements are mounted, the filter retainer being attachable to the camera module frame so as to position the filter elements adjacent to their respective lenses.

5. (New) An imaging system according to Claim 4 wherein an airtight seal exists between the filter retainer and the camera module frame.
6. (New) An imaging system according to Claim 5 wherein a vacuum exists between the filter retainer and the camera module frame.
7. (New) An imaging system according to Claim 4 further comprising a dessicant located between the filter retainer and the camera module frame.
8. (New) An imaging system according to Claim 1 further comprising a fixture on which the imaging photodetectors are mounted, the fixture being attachable to the camera module frame so as to position the imaging photodetectors adjacent to their respective lenses.
9. (New) An imaging system according to Claim 8 further comprising a serial data path connected to the imaging photodetectors that meets standard IEEE 1394.
10. (New) An imaging system according to Claim 1 wherein the fields of view of the lenses are measured in a calibration, and wherein the controller subsequently compensates for discrepancies in the fields of view during a post-processing phase.
11. (New) An imaging system according to Claim 1 further comprising an inertial measurement unit that detects acceleration and rotation rates of the camera assembly and provides an input signal to the controller indicative thereof.
12. (New) An imaging system according to Claim 11 wherein the signal from the inertial measurement unit is used by the controller in triggering collection of the imaging data.

13. (New) An imaging system according to Claim 11 wherein discrepancies between the signal from the inertial measurement unit and image data collected by the camera assembly is measured in a calibration, and wherein the controller subsequently compensates for the discrepancies in a post-processing phase.
14. (New) An imaging system according to Claim 1 wherein the camera assembly is a first camera assembly, and wherein the system comprises a plurality of camera assemblies, each having its own set of lenses.
15. (New) An imaging system according to Claim 14 wherein the lenses of different camera assemblies have different fields of view.
16. (New) An imaging system according to Claim 14 wherein the lenses of different camera assemblies have the same field of view.
17. (New) An imaging system according to Claim 1 further comprising an aerodynamic pod on the outside of the aircraft within which the camera assembly is located.
18. (New) An aerial imaging system comprising:
 - a image storage medium locatable within an aircraft;
 - a controller that controls the collection of image data and stores it in the storage medium;
 - a camera assembly that collects image data from a region to be imaged and inputs it to the controller, the camera assembly comprising a plurality of camera lenses, and a plurality of imaging photodetectors, each aligned to receive light from a different one of the camera lenses; and
 - a data collection apparatus via which data is collected from the photodetectors by the controller, the data collection apparatus comprising a serial data path that connects to each of the photodetectors.

19. (New) An imaging system according to Claim 18 wherein the serial data path meets standard IEEE 1394.
20. (New) An imaging system according to Claim 18 further comprising a data hub to which each of the photodetectors connects, the data hub having an additional connection via which it may be connected to an additional data hub.
21. (New) An imaging system according to Claim 20 wherein the camera assembly is a first camera assembly, and wherein the system comprises a plurality of camera assemblies, each having its own set of lenses and its own set of photodetectors connected to a data hub specific to that camera assembly, and wherein the data hubs may be connected together via an additional connection on each data hub so as to created a single serial data path.
22. (New) An aerial imaging system comprising:
 - a image storage medium locatable within an aircraft;
 - a controller that controls the collection of image data and stores it in the storage medium;
 - a camera assembly that collects image data from a region to be imaged and inputs it to the controller, the camera assembly comprising at least one multiple camera module having a rigid frame containing a plurality of parallel lens cavities in each of which a camera lens is mounted, and a plurality of imaging photodetectors, each aligned to receive light from a different one of the camera lenses; and
 - an optical filter assembly comprising a plurality of optical filters each of which filters light prior to its collection by a different one of the lenses, the filter assembly further comprising a retainer within which each of the filters is mounted, the retainer being located adjacent to the camera assembly frame so that each filter filters light from its respective lens.

23. (New) An imaging system according to Claim 22 wherein each of the filters has a different filter wavelength band.
24. (New) An imaging system according to Claim 22 wherein an airtight seal exists between the filter retainer and the camera module frame.
25. (New) An imaging system according to Claim 24 wherein a vacuum exists between the filter retainer and the camera module frame.
26. (New) An imaging system according to Claim 22 further comprising a dessicant located between the filter retainer and the camera module frame.
27. (New) An imaging system according to Claim 22 wherein the camera module is a first camera module and the system comprises a plurality of camera modules, each having its own set of lenses and its own set of photodetectors, and wherein the optical filter assembly is a first optical filter assembly and the system comprises a plurality of optical filter assemblies, each having a retainer located adjacent to a respective one of the camera assembly frames.
28. (New) An imaging system according to Claim 22 wherein at least one of the filters has a pass band in the infrared wavelength range.
29. (New) An imaging system according to Claim 22 wherein a plurality of the filters has a pass band in the infrared wavelength range.
30. (New) A method of conducting aerial imaging, the method comprising:
 - providing an a image storage medium locatable within an aircraft;
 - collecting image data from a region to be imaged with a camera assembly and generating an image data output, the camera assembly comprising at least one multiple camera module having a rigid frame containing a plurality of parallel lens cavities in each of which a camera lens is mounted and focused on the

same field of view, and a plurality of imaging photodetectors, each aligned to receive light from a different one of the camera lenses;

controlling a collection of image data with a controller that receives the image data output and stores the image data in the storage medium; and

filtering light prior to its collection by the camera assembly using an optical filter assembly comprising a plurality of optical filters each of which filters light for a different one of the lenses, and wherein at least one of the filters has a filter band in the visible range and at least one of the filters has a filter band in the near-infrared range.